



Robert Mancini
Project Manager, Refining Business Unit
Chevron Environmental Management Company
1200 State Street
Perth Amboy, NJ 08861
Tel: (732) 738-2023
Fax: (732) 738-2039
RMancini@Chevron.com

August 18, 2016

Mr. Sin-Kie Tjho
Project Manager
United States Environmental Protection Agency (USEPA), Region 2
290 Broadway, 22nd Floor
New York, New York 10007

Re: Justification for No Further Action (NFA)
Solid Waste Management Unit (SWMU) 22
Former Chevron Perth Amboy Facility
Perth Amboy, New Jersey
SRP PI # 003621

Dear Mr. Tjho:

INTRODUCTION

Solid Waste Management Unit (SWMU) 22 is within the northern portion of the Main Yard at the former Chevron Perth Amboy Facility, located at 1200 State Street, Perth Amboy, New Jersey (Facility). SWMU 22 was identified as one of the areas requiring corrective measures (CMs) in the Corrective Measures Study (CMS) Final Report (Chevron 2008). The United States Environmental Protection Agency (USEPA) issued a Resource Conservation and Recovery Act (RCRA) Hazardous and Solid Waste Amendments (HSWA) Permit Renewal (Permit) for the Facility on September 3, 2013 (USEPA 2013). The Permit identified the following CMs for SWMU 22:

1. Excavation, ex-situ stabilization (ESS), and disposal in the Corrective Action Management Unit (CAMU) for total organic lead (TOL) concentrations greater than 2 milligrams per kilogram (mg/kg) in soil
2. Filing a deed notice for benzo(a)pyrene (BaP) concentrations less than 10 mg/kg and greater than 0.66 mg/kg
3. Monitored natural attenuation and filing a Classification Exception Area for groundwater

A Pre-Design Investigation (PDI) was developed to define the extent of the ESS area and to close remaining data gaps within SWMU 22 (Parsons 2014). The purpose of this letter is to summarize the investigations that have been conducted at SWMU 22 and to provide justification that no further action (NFA) is required at SWMU 22 for tetra-ethyl lead (TEL) in soil.

SUMMARY OF HISTORICAL INVESTIGATIONS

SWMU 22 is located in the Main Yard of the Facility, northeast of former Tank 329. SWMU 22 was identified based on the indicated presence of a 20-foot by 20-foot TEL sludge burial area on the Refinery Leaded Burial Map (Chevron 2008).

Previous soil investigations in SWMU 22 were performed in two phases. In 1995, seven borings (U022-001 through U-022-006 and SB-0041) were advanced as part of the 1st Phase RCRA Facility Investigation (RFI) in the vicinity of the TEL burial area (Chevron 1997). One soil sample was collected from soil boring SB-0041 from a depth interval of 2.0 to 4.0 feet below ground surface (bgs) and was analyzed for total organic lead concentration (TOL). The sample was described as a dark gray to black silt, some clay and sand with strong petroleum odor and black staining, and a photoionization detector (PID) reading of 584 parts per million (ppm) was recorded. The result was below the CM implementation (CMI) action level (2 mg/kg).

During the Full RFI in 2002, three soil borings (S0776 through S0778) were advanced and soil samples were collected at various depths. Soil borings S0777 and S0778 were advanced south of the suspected TEL burial area. Soil boring S0776 was advanced northeast of the suspected TEL burial area.

Since the findings and conclusions of these investigations were previously reported to USEPA in the 2003 RFI Report (Chevron 2003), they are only summarized here. Figure 1 presents the historical boring locations at SWMU 22 and analytical results on an aerial photograph. The boring location at which the TEL concentration was identified above the CMI action level is noted in red, and the concentration above the CMI action level is highlighted in yellow on Figure 1. Table 1 summarizes results above the CMI action level of 2 mg/kg.

Table 1
SWMU 22 Historical Sample Results above CMI Action Level

Boring ID	Sample Date	Sample Depth (feet bgs)	TEL/TOL ² (mg/kg)
S0776	7/16/2002	7.5 – 8.0	7.1 J

1. J = Estimated value

2. Result reported as TOL and represents TOL (see following discussion)

Historical TEL/TOL Results

Ten soil samples were collected from three boring locations and analyzed for TEL/TOL during the historical investigations described above. With the exception of one value, results were below the CMI action level, and the method detection limits (MDLs) for nondetect results were also below the CMI action level. TOL was detected (7.1 J mg/kg) above the CMI action level in soil boring S0776 from a dark gray peat interval at 7.5 to 8.0 feet bgs.

Historical Results for Other Constituents

Historical results for lead are also presented on Figure 1. As shown, all lead results in SWMU 22 were below the CMI action level (800 mg/kg).

Twelve soil samples were collected from five borings and analyzed for BaP during the historical investigations. All results for BaP were below the CMI action level (10 mg/kg).

As shown on Figure 1, 19 soil samples were collected from eight boring locations and analyzed for benzene. Results for benzene were either nondetect or well below the CMI action level (13 mg/kg).

Monitoring well MW-120 was installed at boring location S0776. MW-120 has been sampled for total lead on a semiannual basis from 2002 through 2014. Monitoring well MW-327, located southeast of MW-120, has also been sampled for total lead analysis since 2012. Sample results show that lead has not been detected in MW-120 or MW-327 at concentrations greater than the CMI action level of 50 micrograms per liter ($\mu\text{g}/\text{L}$).

TEL versus TOL analysis

Soil samples collected during the 1998 and 2003 RFI phases were analyzed using the California Leaking Underground Fuel Tank (LUFT) method. The California LUFT method reports the total concentration of the following five alkyl-lead compounds:

- Tetra-methyl lead
- Trimethyl-ethyl lead
- Dimethyl-ethyl lead
- Methyl-triethyl lead
- TEL

The California LUFT method does not differentiate between the five alkyl-lead compounds, and the results represent TOL concentrations in soil. However, the 1998 data were reported as TEL, while the soil data collected during the 2003 RFI were more appropriately reported as TOL.

Soil samples collected in 2006 and during the PDI were analyzed for TEL following USEPA SW-846 Method 8270C, which does differentiate between the separate alkyl-lead compounds. Results for the 2006 investigation and PDI samples are reported as TEL in soil. A conservative approach was used to evaluate and compare historical and PDI results. All results were assumed to be TEL regardless of how the results were reported.

PDI METHODOLOGY

The 2008 CMI Report identified SWMU 22 as requiring ESS for the removal of TEL/TOL-impacted soil that exceeded the CMI action level of 2 mg/kg. As presented in Table 1, only one historical result exceeded the CMI action level. The objectives of the PDI were to confirm the historical result and evaluate any TEL/TOL impacts horizontally/vertically.

PDI soil borings were located in the field using a 30-foot by 30-foot sampling grid. Soil borings were advanced at grid nodes or as close to the grid nodes as practical given subsurface conditions and the results of pre-clearance activities. Soil samples were collected from depth intervals where impacted soil was historically observed (generally ranging from 7.5 to 8.0 feet bgs). PDI soil samples were also collected based on field screening results (i.e., PID readings, staining, and odors). Soil cores were screened in 6-inch intervals using a PID. Samples were collected where the PID readings exceeded 100 ppm. If PID readings in excess of 100 ppm were observed over a 2-foot interval, a sample was collected from the 6-inch interval exhibiting the highest PID reading.

Soil borings were logged for visual appearance, olfactory observations, and field PID readings. Characteristics such as color, grain size, plasticity and moisture content were recorded. A Unified Soil Classification System code was assigned to each soil type based on field observations. PDI and historical boring logs are included in Attachment 1.

In order to vertically delineate any observed potentially impacted soil, additional samples were collected from non-impacted soil above and below the potentially impacted soil. These samples were subsequently analyzed if the analytical results from the potentially impacted sample exceeded the CMI action level for TEL (2 mg/kg).

Soil samples were collected using single-use, disposable scoops and transferred directly into laboratory provided jars. All soil samples were stored on ice in a laboratory-provided cooler and transported to Eurofins Lancaster Laboratories Environmental, LLC, in Lancaster, Pennsylvania, for analysis using USEPA SW-846 Method 8270C. Attachment 2 includes a summary of historical and PDI sampling results for SWMU 22.

Upon sampling completion, soil borings were backfilled with soil cuttings or with bentonite chips, as appropriate. The surface was restored to previous site conditions and marked for surveying. All PDI borings were surveyed for elevation (in the National Geodetic Vertical Datum or NGVD29) and surface location.

PDI RESULTS

The PDI at SWMU 22 was performed in May 2015. Six soil borings were advanced using a track-mounted, direct-push technology Geoprobe® rig. The PDI analytical results for TEL are presented in Table 2. Soil boring locations and PDI sample results are presented on Figure 2.

Evaluation of TEL results

Evaluation of Historical Boring S0776

As shown on Figure 1, at historic soil boring S0776 and at a depth interval of 7.5 to 8.0 feet bgs, the reported historical TOL result (7.1 J mg/kg) is above the CM action level.

PDI soil boring S4759 was advanced adjacent to historic boring S0776 to confirm the potential presence of TEL in soil at this location. Three soil samples were collected from various depth intervals and TEL results were non-detect, with MDLs below the CMI action level (2 mg/kg).

In addition, PDI soil borings S4760, S4761, S4786, and S4787 were advanced southwest, southeast, northeast, and northwest, respectively, of historical boring S0776 to further evaluate the potential presence of TEL in the surrounding soil. As shown on Table 2, samples were collected from multiple depth intervals, and TEL results for all samples were nondetect, with MDLs below the CMI action level.

Evaluation of Suspected TEL Burial Area

Soil boring S4788 was advanced within the center of the suspected TEL burial area as identified on the Refinery Leaded Burial Map. As shown on Table 2, two samples were collected, and results for both samples were nondetect, with MDLs below the CMI action level.

CONCLUSIONS

The sampling results from the PDI as described above address the data gaps remaining from historical investigations. A total of six borings were advanced, and 17 soil samples were collected for TEL analysis. The results for all samples analyzed for TEL were nondetect, with MDLs below the CMI action level.

The only historical detection above the CMI action level at S0776 could not be confirmed because all results from subsequent investigations were nondetect, with MDLs below the CMI action level. Although the CMS recommended ESS to address the historical TOL exceedance in SWMU 22, the extensive PDI results demonstrate that TEL is not present in soil at concentrations above the CMI action level. Therefore, NFA is warranted for TEL in SWMU 22 soil.

Isolated concentrations of constituents identified above the New Jersey Department of Environmental Protection (NJDEP) Residential Direct Contact Soil Cleanup Criteria will be addressed in the Facility-wide Deed Restriction. Groundwater will continue to be evaluated on a Facility-wide basis.

Based on the soil results and conclusions presented herein, Chevron requests your review and approval of this NFA request for TEL in soil within SWMU 22.

REFERENCES

- Chevron. 1997. 1st Phase RFI Soils Report. June.
- Chevron. 2003. Full RCRA Facility Investigation Report. November,
- Chevron. 2008. Corrective Measures Study Final Report for the Main Yard, East Yard, and Central Yard Chevron Perth Amboy Refinery, Perth Amboy, New Jersey. November.
- Parsons. 2015. Pre-Design Investigation Work Plan SWMU 22. March.
- USEPA. 2013. Letter to Chevron USA, Inc. and Buckeye Perth Amboy Terminal LLC Notice of Issuance of Final Permit Renewal and Permit Modification I Decision, Chevron USA, Inc. and Buckeye Perth Amboy terminal LLC, EPA ID No: NJD081982902. July 19.

ATTACHMENTS

Table 2 – Summary of PDI Analytical Results- SWMU 22 (note Table 1 is embedded)

Figure 1 – Historical Sampling Results - SWMU 22

Figure 2 – PDI Results and Pertinent Historical Data - SWMU 22

Attachment 1 – Historical and PDI Boring Logs

Attachment 2 – Summary of Analytical Results

Should you require any additional information for your review, please do not hesitate to contact me directly at (732) 738-2023.

Sincerely,



The signature is handwritten in black ink. It appears to read "Robert E Mancini" followed by the date "8/18/16".

Robert Mancini
Project Manager
Refining Business Unit

cc: D-ID Number 2016-043-37
Ms. Anne Pavelka, NJDEP

TABLES

Table 2
Summary of PDI Sampling Results - SWMU 22
 Justification for No Further Action
 Former Chevron Perth Amboy Facility - Perth Amboy, New Jersey

Location ID	Evaluation for		Sample Date	Field Sample ID	Sample Depth	TEL
	Boring ID	Direction				mg/kg
S4759	S0776	Adjacent	05/14/2015	S4759A3	1 - 1.5	0.23 U
			05/14/2015	S4759D3	7 - 7.5	0.096 U
			05/14/2015	S4759E2	8.5 - 9	0.039 U
S4760	S0776	Southwest	05/14/2015	S4760A3	1 - 1.5	0.20 U
			05/14/2015	S4760C4	5.5 - 6	0.067 U
			05/14/2015	S4760D4	7.5 - 8	0.040 U
S4761	S0776	Southeast	05/14/2015	S4761A4	1.5 - 2	0.040 U
			05/14/2015	S4761D1	6 - 6.5	0.75 UJ
			05/14/2015	S4761D4	7.5 - 8	0.039 U
S4786	S0776	Northeast	05/14/2015	S4786A4	1.5 - 2	0.037 U
			05/14/2015	S4786D4	7.5 - 8	0.13 UJ
S4787	S0776	Northwest	05/14/2015	S4787B2	2.5 - 3	0.043 U
			05/14/2015	S4787D1	6 - 6.5	0.19 UJ
			05/14/2015	D0514159	6 - 6.5	0.17 UJ
			05/14/2015	S4787D4	7.5 - 8	0.040 U
S4788	-	Center	07/25/2014	05/15/2015	1 - 1.5	0.039 U
			07/25/2014	05/15/2015	3.5 - 4	0.056 U

Notes:

CMI = Corrective Measures Implementation

bgs = Below ground surface

mg/kg = Milligrams per kilogram

PDI = Pre-design Investigation

R = Result rejected due to quality control deficiencies. Analyte may or may not be present.

SWMU = Solid Waste Management Unit

TEL = Tetra-ethyl lead

U = Compound was not detected above indicated method detection limit

UJ = Compound was not detected. Reported quantitation limit is approximate and may be inaccurate or imprecise

Gray shading indicates nondetect result with Method Detection Limit > TEL CMI action limit (2 mg/kg)

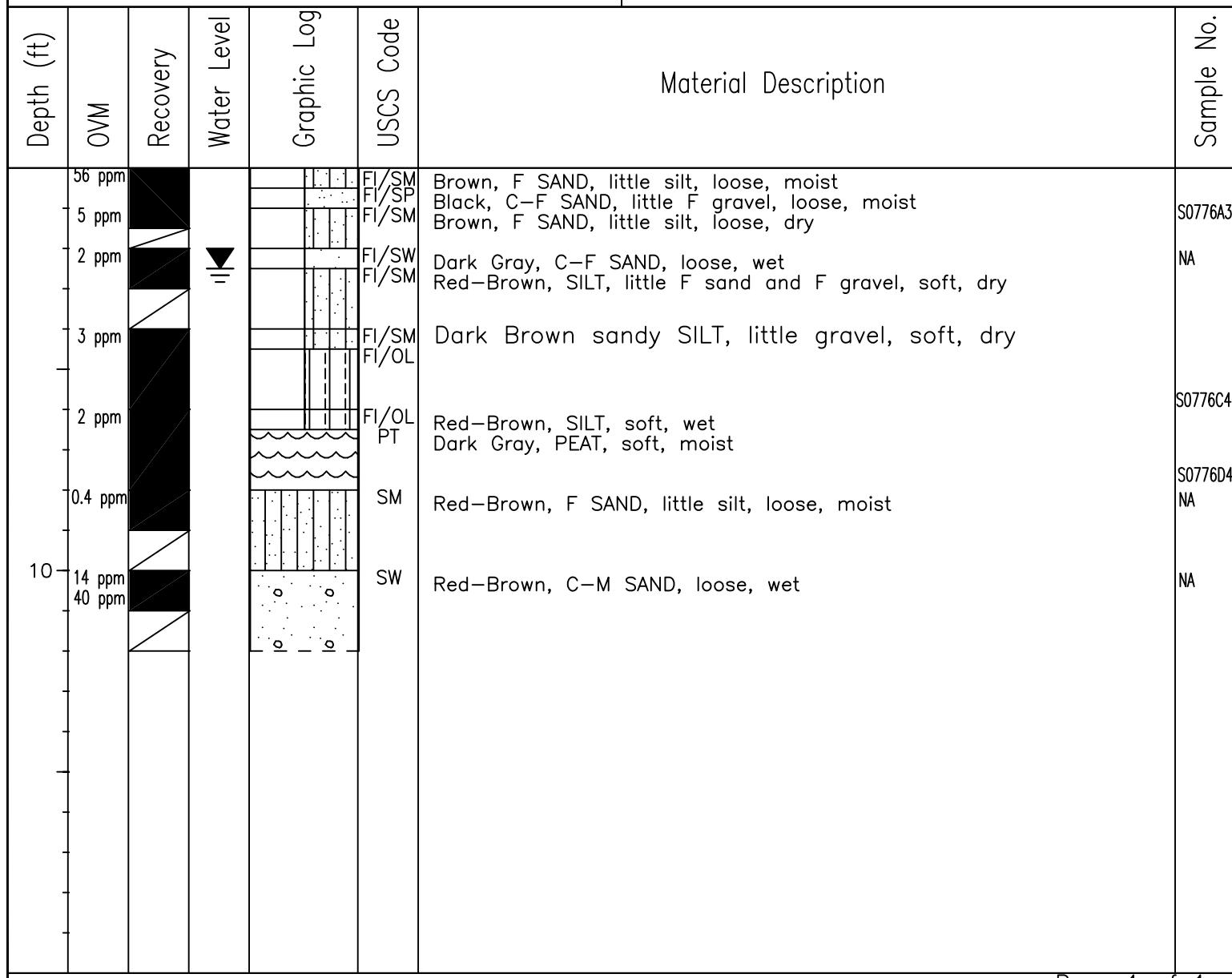
FIGURES





ATTACHMENT 1
HISTORICAL AND PDI BORING LOGS

Project Name: CHEVRONTEXACO	Site Id: S0776
	Location: NORTH FIELD – SWMU 22
Logged By: MW / PP	Date(s): 07/16/02 – 07/16/02
Consulting Firm: RFI TEAM	Method: Geoprobe – Stainless Steel Split Spoon
Contractor: JCA	Borehole Dia.: 2.00in
Remarks:	Total Depth: 12.00'
	Groundwater Depth: 2.50'
	Datum: Ground Surface



Project Name: CHEVRONTEXACO				Site Id: S0777			
				Location: SWMU22 – MAIN YARD			
Logged By: GR				Date(s): 07/16/02 – 07/16/02			
Consulting Firm: RFI TEAM				Method: Direct Push – 3' Macro Core			
Contractor: JCA				Borehole Dia.: 2.00in			
Remarks:				Total Depth: 9.00'			
				Groundwater Depth: 6.50'			
				Datum: Ground Surface			
Depth (ft)	OVM	Recovery	Water Level	Graphic Log	USCS Code	Material Description	Sample No.
7.9 ppm					FI/ML FI/GP	Brown, SILT and SAND, loose, moist Black, GRAVEL, SAND, loose, dry	S0777/M/B
1.5 ppm					CH	Gray, MICACEOUS CLAY, soft, moist	
0 ppm					CH	Brown, CLAY, trace F sand, soft, moist Red, CLAY, some C-F sand, trace silt, soft, moist	S0777/C
0 ppm					GP CH	Brown, GRAVEL and SAND Brown, CLAY, some C-F sand, trace silt, soft, moist	
0 ppm					SW	Brown, M-F SAND, loose, wet	N/A
10							

Project Name: CHEVRONTEXACO					Site Id: S0778		
					Location: NORTH FIELD – SWMU 22		
Logged By: GR					Date(s): 07/16/02 – 07/16/02		
Consulting Firm: RFI TEAM					Method: Geoprobe – Stainless Steel Split Spoon		
Contractor: JCA					Borehole Dia.: 2.00in		
Remarks:					Total Depth: 6.00'		
					Groundwater Depth: 0.00'		
					Datum: Ground Surface		
Depth (ft)	OVM	Recovery	Water Level	Graphic Log	USCS Code	Material Description	Sample No.
0.0 ppm					FI/SM FI/GW CH SC	Brown, SILT and F SAND, loose, moist Black, GRAVEL and SAND, loose, moist Gray, CLAY, little silt, trace F sand, soft, moist Brown, CLAY, little silt and C-F sand, soft, moist Red, C-F SAND-SILT-CLAY, hard, moist	S0778A/B2
1.4 ppm							S0778C3
0.3 ppm							
10							

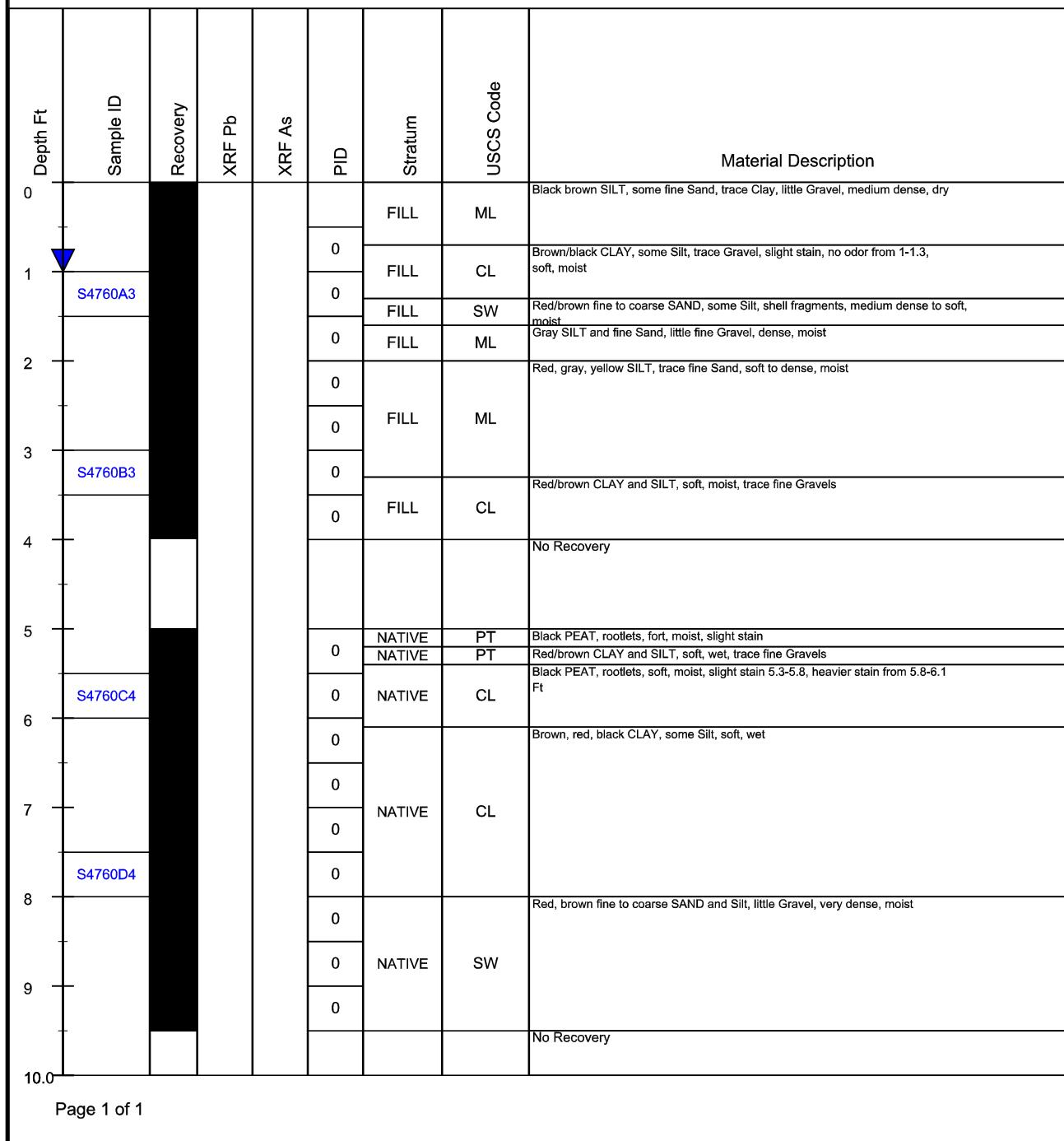
Site: Chevron: Perth Amboy, NJ	Drilling Company: East Coast Drilling, Inc.	Northing: 622365.5204
Boring/Well ID: S4759	Driller: J. Barnak	Easting: 556664.3562
Permit No: NA	Consulting Firm: Parsons	Elevation: 7.2
Location: SWMU 22	Logged By: J. Lynch/P. Fringer	Datum: Ground Surface
Start Date: 05/14/2015	Drill Rig Type: Geoprobe	Total Depth (Ft BGS): 10.0 Ft
Complete Date: 05/14/2015	Drilling Method: Direct Push - Tripod	Boring Diameter (inch): 2 in
Field Book No: 298	Colocated TWP ID:	Water Depth in Soil (Ft BGS): 1 Ft
Weather: Sunny 60F	Screen Interval: -	

Remarks:

Depth Ft	Sample ID	Recovery	XRF Pb	XRF As	PID	Stratum	USCS Code	Material Description	
0					1.4	FILL	SW	Brown fine to coarse SAND and GRAVEL, some Clay, loose, moist, no stain, no odor	
1	S4759A3				17.1				
1					230.2	FILL	ML	Black stained SILT with some fine to coarse Sand, trace Gravel, moist, loose, stained, hydrocarbon odor	
2					70.8	FILL	GW	Black fine to coarse GRAVEL, some Sand, stiff, wet, NAPL on core, stained, strong HC odor	
2					52.5	FILL	ML	Red and brown SILT, some fine to coarse Sand, stiff, moist, no staining, faint HC odor	
3	S4759B2				9.7	FILL	ML	Brown and black SILT with Sand, trace Gravel, soft, stiff, no stain, no odor	
3					3.7	FILL	ML	Red and brown SILT with Clay, soft-firm, moist, no stain, no odor	
4					2.5				
4								No Recovery	
5					0.8	FILL	ML	Red and brown SILT with Clay, soft-firm, moist, no stain, no odor	
6	S4759C4				1.3				
6					2.6	NATIVE	PT	Black PEAT, yellow rootlets, soft, moist, slight staining, slight organic odor	
7	S4759D3				1.4				
7					0.2	NATIVE	PT	Black PEAT, yellow rootlets, soft, moist, more black staining than 6.3-7.0, slight organic odor	
8					0	NATIVE	CL	Brown, red, black CLAY with Silt, soft, wet, some staining, no odor	
8	S4759E2				0	NATIVE	CL	Brown, red, black, CLAY with Silt, soft, wet, no stain, no odor	
9					0				
10.0									

Site: Chevron: Perth Amboy, NJ	Drilling Company: East Coast Drilling, Inc.	Northing: 622349.5706
Boring/Well ID: S4760	Driller: J. Barnak	Easting: 556651.9346
Permit No: NA	Consulting Firm: Parsons	Elevation: 7.0
Location: SWMU 22	Logged By: J. Lynch	Datum: Ground Surface
Start Date: 05/19/2015	Drill Rig Type: Geoprobe	Total Depth (Ft BGS): 10.0 Ft
Complete Date: 05/19/2015	Drilling Method: Direct Push - Tripod	Boring Diameter (inch): 2 in
Field Book No: 298	Colocated TWP ID:	Water Depth in Soil (Ft BGS): 1 Ft
Weather: Sunny, 70F	Screen Interval: -	

Remarks:



Site: Chevron: Perth Amboy, NJ	Drilling Company: East Coast Drilling, Inc.	Northing: 622347.6985
Boring/Well ID: S4761	Driller: J. Barnak	Easting: 556683.152
Permit No: NA	Consulting Firm: Parsons	Elevation: 7.2
Location: SWMU 22	Logged By: J. Lynch	Datum: Ground Surface
Start Date: 05/14/2015	Drill Rig Type: Geoprobe	Total Depth (Ft BGS): 10.0 Ft
Complete Date: 05/14/2015	Drilling Method: Direct Push - Tripod	Boring Diameter (inch): 2 in
Field Book No: 298	Colocated TWP ID:	Water Depth in Soil (Ft BGS): 1 Ft
Weather: Sunny, 70F	Screen Interval: -	

Remarks:

Depth Ft	Sample ID	Recovery	XRF Pb	XRF As	PID	Stratum	USCS Code	Material Description	
0	S4761A1				0	FILL	ML	Brown/black SILT, little fine Sand and Gravel, medium soft	
1					9.6	FILL	ML	Black SILT, fine Sand and Gravel, loose, stiff, stained, slight HC odor	
					923	FILL	BRK	Brick lense, some loose SAND	
					1037	FILL	ML	Brown/black SILT, wet, stained, strong petrol odor	
						FILL	GW	Stained black fine to coarse GRAVEL, some coarse Sand, wet, NAPL present, strong HC odor	
2	S4761A4				193.4			Red, brown, grey, green, mottled SILT, some Clay, trace Gravel, no stain, no odor, moist, some staining and HC odor from 1.9-2.6	
3					397.4				
4	S4761B3				70				
					8				
								No Recovery	
5					12.5	FILL	CL	Grey CLAY, most, soft, no stain, no odor	
								Black PEAT, yellow rootlets, medium soft, wet, slight stain, slight organic odor	
6	S4761D1				6.1	NATIVE	PT		
					4.8	NATIVE	PT	Black PEAT, yellow rootlets, medium soft, wet, more staining, slight organic odor	
7					11.8				
					2.8				
8	S4761D4				1.4	NATIVE	CL		
					0.8			Brown, red, grey CLAY, some Silt, soft, wet, no stain, no odor	
9					1.3	NATIVE	SW	Red, brown fine to coarse SAND and Silt, little Gravel, very dense, moist, no stain, no odor	
10.0					0.9			No Recovery	

Site: Chevron: Perth Amboy, NJ	Drilling Company: East Coast Drilling, Inc.	Northing: 622378.448
Boring/Well ID: S4786	Driller: J. Barnak	Easting: 556681.5562
Permit No: NA	Consulting Firm: Parsons	Elevation: 7.7
Location: SWMU 22	Logged By: J. Lynch	Datum: Ground Surface
Start Date: 05/14/2015	Drill Rig Type: Geoprobe	Total Depth (Ft BGS): 10.0 Ft
Complete Date: 05/14/2015	Drilling Method: Direct Push - Tripod	Boring Diameter (inch): 2 in
Field Book No: 298	Colocated TWP ID:	Water Depth in Soil (Ft BGS): 1 Ft
Weather: Sunny, 75F	Screen Interval: -	

Remarks:

Depth Ft	Sample ID	Recovery	XRF Pb	XRF As	PID	Stratum	USCS Code	Material Description
0	S4786A1				1.5	FILL	ML	Brown SILT, some fine Sand and little Gravel, medium dense, dry
1	S4786A4				0	FILL	SW	Brown, black fine to coarse SAND, some Gravels, wet, loose, trace brick fragments, HC staining and odor from 1.6-2.0 ft
1					0.4			
2	S4786B3				6.4	FILL	ML	Red brown SILT, some fine to coarse Sand, trace Gravel, stiff, moist
2	S4786B1				2.2			
3	S4786D1				2.5	FILL	CL	Red, grey, white mottled CLAY, some Silt, soft, wet
3	S4786D4				0			
4	S4786E2				0	FILL	SW	No Recovery
5					0			
6					0	FILL	CL	Brown fine to coarse Sand, some Silt, little Clay, soft, wet
6					0			
7					0	NATIVE	PT	Red/brown CLAY, some Silt, trace Gravels, soft, wet
7					0			
8					0	NATIVE	PT	Black stained PEAT, rootlets, soft, wet, slight organic odor
8					0			
9					0	NATIVE	PT	Red, brown, black CLAY, little Silt, soft, wet
9					0			
10.0								No Recovery

Site: Chevron: Perth Amboy, NJ	Drilling Company: East Coast Drilling, Inc.	Northing: 622379.7218
Boring/Well ID: S4787	Driller: J. Barnak	Easting: 556652.2883
Permit No: NA	Consulting Firm: Parsons	Elevation: 7.4
Location: SWMU 22	Logged By: P. Fringer	Datum: Ground Surface
Start Date: 05/19/2015	Drill Rig Type: Geoprobe	Total Depth (Ft BGS): 10.0 Ft
Complete Date: 05/19/2015	Drilling Method: Direct Push - Tripod	Boring Diameter (inch): 2 in
Field Book No: 298	Colocated TWP ID:	Water Depth in Soil (Ft BGS): 1.5 Ft
Weather: Sunny, 75F	Screen Interval: -	

Remarks:

Depth Ft	Sample ID	Recovery	XRF Pb	XRF As	PID	Stratum	USCS Code	Material Description	
0					0	FILL	ML	Tan, brown SILT, some fine Sand, loose, dry, no stain, no odor	
1					0			Brown and black SILT, some fine Sand, trace Gravels, medium soft, moist, no stain, no odor	
1.7	S4787A3				0	FILL	ML		
2					1.7				
2.5					966.2	FILL	ML	Black stained SILT, some fine Sand, medium soft, wet, stained, NAPL on core, strong odor	
3	S4787B2				993.7	FILL	GP	Black stained coarse GRAVEL, some Sand, wet, NAPL present, strong HC odor	
3.5					650.5	FILL	ML	Black stained SILT, some fine Sand, medium soft, wet, stained, NAPL on core, strong odor	
4					21.5	FILL	GP	Black stained coarse GRAVEL, some Sand, wet, NAPL present, strong HC odor	
4.5								No Recovery	
5					18.2	FILL	GP	Black stained coarse GRAVEL, some Sand, wet, NAPL present, strong HC odor	
5.5					17.6				
6	S4787D1				22.9	NATIVE	PT	Black stained PEAT with yellow rootlets, strong HC odor, NAPL on core	
6.5					4.8				
7					3.5				
7.5	S4787D4				0.5	NATIVE	CL	Red, brown, black CLAY< little Silt, soft, wet	
8					0				
8.5					0			No recovery	
9									
10.0									

Site: Chevron: Perth Amboy, NJ	Drilling Company: East Coast Drilling, Inc.	Northing: 622338.5058
Boring/Well ID: S4788	Driller: J. Barnak	Easting: 556548.995
Permit No: NA	Consulting Firm: Parsons	Elevation: 7.4
Location: SWMU 22	Logged By: P. Fringer	Datum: Ground Surface
Start Date: 05/15/2015	Drill Rig Type: Geoprobe	Total Depth (Ft BGS): 10.0 Ft
Complete Date: 05/15/2015	Drilling Method: Direct Push - Tripod	Boring Diameter (inch): 2 in
Field Book No: 298	Colocated TWP ID:	Water Depth in Soil (Ft BGS): 1 Ft
Weather: Sunny, 75F	Screen Interval: -	

Remarks:

Depth Ft	Sample ID	Recovery	XRF Pb	XRF As	PID	Stratum	USCS Code	Material Description	
0	S4788A1					FILL	SW	Brown/black SAND and Gravel, soft, firm, dry, no stain, no odor	
1	S4788A3					FILL	GW	Black stained fine to coarse GRAVEL and fine to coarse Sand, loose, wet, HC odor Concrete Layer	
2	S4788B1					FILL	ML	Red, brown SILT, some fine Sand, some Clay, moist, no stain, no odor	
3	S4788B4					FILL	ML	Black, grey CLAY, moist, no stain, no odor	
4						FILL	ML	Red, brown SILT, some fine Sand, some Clay, moist, no stain, no odor	
5	S4788C4					FILL	ML	Tan, grey CLAY, soft, moist, no stain, no odor	
6						FILL	CL	Tan, cream, grey SILT with some Clay, moist, medium stiff, no stain, no odor	
7								Brown and red SILT and Clay, moist, no stain, no odor,	
8								Black CLAY and Silt, soft, wet, slight stain, no odor	
9								No Recovery	
10.0								Brown and red fine to coarse SAND and Silt, wet, soft, no stain, no odor	

Project Name: Corrective Action Projects	Site Id: SB-0041
-1st Phase RFI-	Location: NORTH FIELD – SWMU 22
Logged By: K. ZIELENSKI	Date(s): 10/17/95 – 10/17/95
Consulting Firm: E.S.E., INC.	Drill: Geoprobe – Stainless Steel Split Spoon
Contractor: E.P.I.	Borehole Dia.: 2.00in
Remarks:	Total Depth: 5.00'
	Groundwater Depth: 2.50'
	Datum: MEAN SEA LEVEL

Project Name: Corrective Action Projects	Site Id: U022-001
-1st Phase RFI-	Location: NORTH FIELD – SWMU 22
Logged By: K. ZIELENSKI	Date(s): 10/16/95 – 10/16/95
Consulting Firm: E.S.E., INC.	Drill: Geoprobe – Stainless Steel Split Spoon
Contractor: E.P.I.	Borehole Dia.: 2.00in
Remarks:	Total Depth: 4.00'
	Groundwater Depth: 2.00'
	Datum: MEAN SEA LEVEL

Project Name: Corrective Action Projects					Site Id: U022-002					
-1st Phase RFI-					Location: NORTH FIELD - SWMU 22					
Logged By: K. ZIELENSKI					Date(s): 10/17/95 - 10/17/95					
Consulting Firm: E.S.E., INC.					Drill: Geoprobe - Stainless Steel Split Spoon					
Contractor: E.P.I.					Borehole Dia.: 2.00in					
Remarks:					Total Depth: 10.00'					
					Groundwater Depth: 3.00'					
					Datum: MEAN SEA LEVEL					
Depth (ft)	PID	Recovery	Water Level	Graphic Log	USCS Code	Material Description (Burmeister)				
						Trace 0-10%	Little 10-20%	Some 20-35%	And 35-50%	Sample No.
0.0 ppm					FI	[FILL] 0.25' TOPSOIL, dry 0.5' Brown to gray and red mottled SILT, some Sand, moist 0.25' Concrete/cement, moist				
0.0 ppm					FI	[FILL] 0.25' Concrete/cement, moist 0.4' Red brown SILT, some Clay, tr Sand, wet 1.35' Dark brown SILT, tr Clay, wet, organic odor				
5.0 ppm					FI	[FILL] Red brown CLAY, some Silt, tr Gravel, wet				
0.0 ppm					FI	[FILL] 0.1' Same As Above, wet 1.9' Red brown to gray SILT, some Sand, some Gravel, wet				
0.0 ppm					FI	[FILL] 1.5' Same As Above, wet 0.5' MEADOW MAT, wet				
10										

Project Name: Corrective Action Projects	Site Id: U022-003
-1st Phase RFI-	Location: NORTH FIELD - SWMU 22
Logged By: K. ZIELENSKI	Date(s): 10/16/95 - 10/16/95
Consulting Firm: E.S.E., INC.	Drill: Geoprobe - Stainless Steel Split Spoon
Contractor: E.P.I.	Borehole Dia.: 2.00in
Remarks:	Total Depth: 4.00'
	Groundwater Depth: 2.00'
	Datum: MEAN SEA LEVEL

Project Name: Corrective Action Projects	Site Id: U022-004
-1st Phase RFI-	Location: NORTH FIELD - SWMU 22
Logged By: K. ZIELENSKI	Date(s): 10/17/95 - 10/17/95
Consulting Firm: E.S.E., INC.	Drill: Geoprobe - Stainless Steel Split Spoon
Contractor: E.P.I.	Borehole Dia.: 2.00in
Remarks:	Total Depth: 4.00'
	Groundwater Depth:
	Datum: MEAN SEA LEVEL

Project Name: Corrective Action Projects	Site Id: U022-005
-1st Phase RFI-	Location: NORTH FIELD - SWMU 22
Logged By: K. ZIELENSKI	Date(s): 10/16/95 - 10/16/95
Consulting Firm: E.S.E., INC.	Drill: Geoprobe - Stainless Steel Split Spoon
Contractor: E.P.I.	Borehole Dia.: 2.00in
Remarks:	Total Depth: 4.00'
	Groundwater Depth:
	Datum: MEAN SEA LEVEL

Project Name: Corrective Action Projects					Site Id: U022-006					
-1st Phase RFI-					Location: NORTH FIELD - SWMU 22					
Logged By: K. ZIELENSKI					Date(s): 10/17/95 - 10/17/95					
Consulting Firm: E.S.E., INC.					Drill: Geoprobe - Stainless Steel Split Spoon					
Contractor: E.P.I.					Borehole Dia.: 2.00in					
Remarks:					Total Depth: 10.00'					
					Groundwater Depth: 2.50'					
					Datum: MEAN SEA LEVEL					
Depth (ft)	PID	Recovery	Water Level	Graphic Log	USCS Code	Material Description (Burmeister)				
						Trace 0-10%	Little 10-20%	Some 20-35%	And 35-50%	Sample No.
-0.0 ppm					FI	[FILL] 0.15' TOPSOIL, dry 1.85' Red brown SILT, some Clay, tr Gravel, dry, dark staining				
-0.0 ppm					FI	[FILL] Gray mottled Same As Above, moist				
-5.0 ppm					FI	[FILL] 0.25' Same As Above, moist 0.50' Red brown CLAY, some Silt, tr Gravel, tr organics, moist 1.25' Brown CLAY, some Sand, tr Silt, tr Gravel, moist				
-0.0 ppm					FI	[FILL] 0.15' Same As Above, moist 1.85' Gray to Red brown SILT, some Clay, some Gravel, moist				
-0.0 ppm					PT	[FILL] Same As Above, moist 0.15' MEADOW MAT, moist				
10										

ATTACHMENT 2
SUMMARY OF ANALYTICAL RESULTS

Attachment 2
Summary of Metals Results - SWMU 22
Justification for No Further Action
Former Chevron Perth Amboy Facility - Perth Amboy, New Jersey

Location ID	SB-0041	S0776	S0776	S0776	S0777	S0777	S0777	S0778	S0778	S0778	S2556
Field Sample ID	SB-0041S-B	S0776A3	S0776C4	S0776D4	S0777A2T	S0777B2	S0777C3	S0778A4	S0778B2	S0778C3	S2556B3
Sample Date	10/17/1995	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	02/28/2007
Sample Depth	2 - 4	1.0 - 1.5	5.5 - 6.0	7.5 - 8.0	0.5 - 1	2.5 - 3	5 - 5.5	1.5 - 2	2.5 - 3	5 - 5.5	3 - 3.5
Report Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Sample Purpose	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Parameter Name	Leached	Soil Action Levels	Report Result								
Aluminum	N	NA	-	-	-	-	-	-	-	-	-
Antimony	N	340.0 mg/kg	-	-	-	-	-	-	-	-	-
Arsenic	N	20.0 mg/kg	-	-	-	-	-	-	-	-	-
Barium	N	47000.0 mg/kg	-	-	-	-	-	-	-	-	-
Beryllium	N	200.0 mg/kg	-	-	-	-	-	-	-	-	-
Cadmium	N	100.0 mg/kg	-	-	-	-	-	-	-	-	-
Calcium	N	NA	-	-	-	-	-	-	-	-	-
Chromium	N	NA	-	-	-	-	-	-	-	-	-
Cobalt	N	NA	-	-	-	-	-	-	-	-	-
Copper	N	600.0 mg/kg	-	-	-	-	-	-	-	-	-
Iron	N	NA	-	-	-	-	-	-	-	-	-
Lead	N	800.0 mg/kg	85.7	9.35	8.94	16.7	38.9	0.004	15.5	20.4	15.1
Magnesium	N	NA	-	-	-	-	-	-	-	-	-
Manganese	N	NA	-	-	-	-	-	-	-	-	-
Mercury	N	270.0 mg/kg	-	-	-	-	-	-	-	-	-
Nickel	N	2400.0 mg/kg	-	-	-	-	-	-	-	-	-
Potassium	N	NA	-	-	-	-	-	-	-	-	-
Selenium	N	3100.0 mg/kg	-	-	-	-	-	-	-	-	-
Silver	N	4100.0 mg/kg	-	-	-	-	-	-	-	-	-
Sodium	N	NA	-	-	-	-	-	-	-	-	-
Thallium	N	200.0 mg/kg	-	-	-	-	-	-	-	-	-
Vanadium	N	7100.0 mg/kg	-	-	-	-	-	-	-	-	-
Zinc	N	1500.0 mg/kg	-	-	-	-	-	-	-	-	-

Notes:

J = Estimated value

mg/kg = Milligrams per kilogram

NA = No criterion available for the analyte

U = Compound not detected at the reporting level shown

UJ = Compound not detected and value shown is estimated

ug/l = Micrograms per liter

Levels highlighted in yellow are above the soil action level

Attachment 2
Summary of Metals Results - SWMU 22
Justification for No Further Action
Former Chevron Perth Amboy Facility - Perth Amboy, New Jersey

Location ID	S2556	S2600	S2600		
Field Sample ID	S2556C4	S2600C1	S2600D4		
Sample Date	02/28/2007	02/23/2009	02/23/2009		
Sample Depth	5.5 - 6	4 - 4.5	7.5 - 8		
Report Units	mg/kg	mg/kg	mg/kg		
Sample Purpose	REG	REG	REG		
Parameter Name	Leached	Soil Action Levels	Report Result	Report Result	Report Result
Aluminum	N	NA	-	26400	17500
Antimony	N	340.0 mg/kg	-	1.10 U	1.15 U
Arsenic	N	20.0 mg/kg	-	1.95 J	8.98
Barium	N	47000.0 mg/kg	-	82.3	40.9
Beryllium	N	200.0 mg/kg	-	0.490 J	1.12
Cadmium	N	100.0 mg/kg	-	0.211 J	1.48
Calcium	N	NA	-	195	679
Chromium	N	NA	-	10.8	27.3
Cobalt	N	NA	-	3.15	16.4
Copper	N	600.0 mg/kg	-	3.30	9.97
Iron	N	NA	-	12500	37100
Lead	N	800.0 mg/kg	16.2	3.39	12.5
Magnesium	N	NA	-	750	4090
Manganese	N	NA	-	99.2	333
Mercury	N	270.0 mg/kg	-	0.0126 U	0.0132 U
Nickel	N	2400.0 mg/kg	-	13.0	20.8
Potassium	N	NA	-	556	2790
Selenium	N	3100.0 mg/kg	-	1.07 U	1.16 J
Silver	N	4100.0 mg/kg	-	0.186 U	0.195 U
Sodium	N	NA	-	40.9 U	391
Thallium	N	200.0 mg/kg	-	1.39 U	1.46 U
Vanadium	N	7100.0 mg/kg	-	20.5	54.5
Zinc	N	1500.0 mg/kg	-	20.9	67.5

Notes:

J = Estimated value

mg/kg = Milligrams per kilogram

NA = No criterion available for the analyte

U = Compound not detected at the reporting level shown

UJ = Compound not detected and value shown is estimated

ug/l = Micrograms per liter

Levels highlighted in yellow are above the soil action level

Attachment 2
Summary of Semi Volatile Organic Compound Results - SWMU 22
Justification for No Further Action
Former Chevron Perth Amboy Facility - Perth Amboy, New Jersey

		Location ID	SB-0041	S0776	S0776	S0776	S0777	S0777	S0777	S0778	S0778	S2600	S2600	
		Field Sample ID	SB-0041S-B	S0776A3	S0776C4	S0776D4	S0777A2T	S0777B2	S0777C3	S0778A4	S0778B2	S0778C3	S2600C1	S2600D4
		Sample Date	10/17/1995	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	02/23/2009	02/23/2009
		Sample Depth	2 - 4	1.0 - 1.5	5.5 - 6.0	7.5 - 8.0	0.5 - 1	2.5 - 3	5 - 5.5	1.5 - 2	2.5 - 3	5 - 5.5	4 - 4.5	7.5 - 8
		Report Units	mg/kg	mg/kg										
		Sample Purpose	REG	REG										
Parameter Name	Leached	Soil Action Levels	Report Result											
2,4,5-Trichlorophenol	N	10000.0 mg/kg	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.076 U	0.078 U
2,4,6-Trichlorophenol	N	270.0 mg/kg	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
2,4-Dichlorophenol	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
2,4-Dimethylphenol	N	10000.0 mg/kg	12	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.076 U	0.078 U
2,4-Dinitrophenol	N	2100.0 mg/kg	2.2 U	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.76 U	0.78 U
2,4-Dinitrotoluene	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.076 U	0.078 U
2,6-Dinitrotoluene	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
2-Chloronaphthalene	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
2-Chlorophenol (o-Chlorophenol)	N	5200.0 mg/kg	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
2-Methyl-naphthalene	N	NA	1.2	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
2-Methylphenol (o-Cresol)	N	10000.0 mg/kg	0.7	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.076 U	0.078 U
2-Nitroaniline (o-Nitroaniline)	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
2-Nitrophenol (o-Nitrophenol)	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
3,3'-Dichlorobenzidine	N	6.0 mg/kg	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.11 U	0.12 U
3-Nitroaniline	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.076 U	0.078 U
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.19 U	0.19 U
4-Bromophenylphenylether	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
4-Chloroaniline	N	4200.0 mg/kg	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.076 U	0.078 U
4-Chlorophenyl phenyl ether	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
4-Methylphenol (p-Cresol)	N	10000.0 mg/kg	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.076 U	0.078 U
4-Nitroaniline	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.076 U	0.078 U
4-Nitrophenol	N	NA	2.2 U	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.19 U	0.19 U
Acenaphthene	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Acenaphthylene	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Acetophenone	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.076 U	0.078 U
Anthracene	N	10000.0 mg/kg	0.12	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Atrazine	N	NA	-	0.376 U	0.383 U	3.24 U	-	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Benzaldehyde	N	NA	-	0.376 U	0.383 U	3.24 U	-	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.076 U	0.078 U
Benzo(a)anthracene	N	4.0 mg/kg	1.4	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Benzo(a)Pyrene	N	10.0 mg/kg	1.9	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Benzo(b)Fluoranthene	N	4.0 mg/kg	0.82	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Benzo(g,h,i)perylene	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Benzo(k)Fluoranthene	N	4.0 mg/kg	0.093	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
bis(2-Chloroethoxy)methane	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
bis(2-Chloroethyl) ether	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Bis(2-chloroisopropyl) ether	N	NA	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	N	210.0 mg/kg	0.43 U	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.076 U	0.078 U

Attachment 2
Summary of Semi Volatile Organic Compound Results - SWMU 22
 Justification for No Further Action
 Former Chevron Perth Amboy Facility - Perth Amboy, New Jersey

	Location ID	SB-0041	S0776	S0776	S0776	S0777	S0777	S0777	S0778	S0778	S2600	S2600		
	Field Sample ID	SB-0041S-B	S0776A3	S0776C4	S0776D4	S0777A2T	S0777B2	S0777C3	S0778A4	S0778B2	S0778C3	S2600C1	S2600D4	
	Sample Date	10/17/1995	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	02/23/2009	02/23/2009	
	Sample Depth	2 - 4	1.0 - 1.5	5.5 - 6.0	7.5 - 8.0	0.5 - 1	2.5 - 3	5 - 5.5	1.5 - 2	2.5 - 3	5 - 5.5	4 - 4.5	7.5 - 8	
	Report Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
	Sample Purpose	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	
Butylbenzylphthalate	N	10000.0 mg/kg	0.43 U	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.076 U	0.078 U
Caprolactam	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Carbazole	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Chrysene	N	230.0 mg/kg	2	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Di-n-butylphthalate	N	10000.0 mg/kg	0.43 U	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.076 U	0.078 U
Di-n-octylphthalate	N	10000.0 mg/kg	0.43 U	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.076 U	0.078 U
Dibenz(a,h)anthracene	N	0.66 mg/kg	0.43 U	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Dibenzofuran	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Diethylphthalate	N	10000.0 mg/kg	0.43 U	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.076 U	0.078 U
Dimethyl phthalate	N	10000.0 mg/kg	0.43 U	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.076 U	0.078 U
Diphenyl (Biphenyl, Phenyl benzene)	N	NA	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Fluoranthene	N	10000.0 mg/kg	0.21	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Fluorene	N	10000.0 mg/kg	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Hexachlorobenzene	N	2.0 mg/kg	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Hexachlorobutadiene	N	21.0 mg/kg	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.076 U	0.078 U
Hexachlorocyclopentadiene	N	7300.0 mg/kg	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.19 U	0.19 U
Hexachloroethane	N	100.0 mg/kg	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Indeno(1,2,3-cd)pyrene	N	4.0 mg/kg	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Isophorone	N	10000.0 mg/kg	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
N-Nitrosodi-n-propylamine	N	0.66 mg/kg	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
N-Nitrosodiphenylamine (Diphenylamine)	N	600.0 mg/kg	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Naphthalene	N	17.0 mg/kg	0.7	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Nitrobenzene	N	520.0 mg/kg	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
p-Chloro-m-cresol	N	10000.0 mg/kg	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.076 U	0.078 U
Pentachlorophenol	N	24.0 mg/kg	-	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.19 U	0.19 U
Phenanthrene	N	NA	1.1	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Phenol	N	10000.0 mg/kg	0.084	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U
Pyrene	N	NA	1.4	0.376 U	0.383 U	3.24 U	0.391 U	0.396 U	0.375 U	0.403 U	0.384 U	0.365 U	0.038 U	0.039 U

Notes:

J = Estimated value

mg/kg = Milligrams per kilogram

NA = No criterion available for the analyte

U = Compound not detected at the reporting level shown

UJ = Compound not detected and value shown is estimated

ug/l = Micrograms per liter

Levels highlighted in yellow are above the soil action level

Attachment 2
Summary of Volatile Organic Compound Results - SWMU 22
Justification for No Further Action
Former Chevron Perth Amboy Facility - Perth Amboy, New Jersey

		Location ID	SB-0041	S0776	S0776	S0776	S0777	S0778	S0778						
		Field Sample ID	SB-0041S-B	S0776A3	S0776C4	S0776D4	S0777A2T	S0777A4	S0777A4	S0777B2	S0777B2	S0777C3	S0777C3	S0778A4	S0778A4
		Sample Date	10/17/1995	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002
		Sample Depth	2 - 4	1.0 - 1.5	5.5 - 6.0	7.5 - 8.0	0.5 - 1	1.5 - 2	1.5 - 2	2.5 - 3	2.5 - 3	5 - 5.5	5 - 5.5	1.5 - 2	1.5 - 2
		Report Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/kg	mg/kg	ug/kg	mg/kg	ug/kg	mg/kg	ug/kg
		Sample Purpose	REG												
Parameter Name	Leached	Soil Action Levels	Report Result												
1,1 DICHLOROETHENE	N	150.0 mg/kg	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
1,1,1-Trichloroethane	N	1000.0 mg/kg	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
1,1,2,2-Tetrachloroethane	N	70.0 mg/kg	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
1,1,2-Trichloroethane	N	420.0 mg/kg	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
1,1,2-Trichlorotrifluoroethane (Freon 113)	N	NA	-	0.765 U	0.642 U	5.93 U	-	0.4 U	-	0.4 U	-	3.26 U	-	0.13 U	-
1,1-Dichloroethane	N	1000.0 mg/kg	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
1,2,4-Trichlorobenzene	N	1200.0 mg/kg	-	0.153 U	0.128 U	1.19 U	0.391 U	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
1,2-Dibromo-3-chloropropane (DBCP)	N	NA	-	1.53 U	1.29 U	11.9 U	-	0.13 U	-	0.4 U	-	1.3 U	-	3.26 U	-
1,2-Dibromoethane	N	NA	1.6 U	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
1,2-Dichlorobenzene (o-Dichlorobenzene)	N	10000.0 mg/kg	0.43 U	0.153 U	0.128 U	1.19 U	0.391 U	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
1,2-Dichloroethane	N	24.0 mg/kg	1.6 U	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
1,2-Dichloropropane	N	43.0 mg/kg	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
1,3-Dichlorobenzene	N	10000.0 mg/kg	0.43 U	0.153 U	0.128 U	1.19 U	0.391 U	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
1,4-Dichlorobenzene	N	10000.0 mg/kg	0.43 U	0.153 U	0.128 U	1.19 U	0.391 U	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
2-Butanone (Methyl ethyl ketone)	N	1000.0 mg/kg	3.2 U	3.83 U	3.21 U	29.6 U	-	2.84 U	-	3.64 U	-	3.38 U	-	3.6 U	-
2-Hexanone	N	NA	-	0.765 U	0.642 U	5.93 U	-	0.568 U	-	0.728 U	-	0.676 U	-	0.72 U	-
4-Methyl-2-pentanone	N	1000.0 mg/kg	-	0.765 U	0.642 U	5.93 U	-	0.568 U	-	0.728 U	-	0.676 U	-	0.72 U	-
Acetone	N	1000.0 mg/kg	-	3.83 U	3.21 U	29.6 U	-	2.84 U	-	3.64 U	-	3.38 U	-	3.6 U	-
Benzene	N	13.0 mg/kg	0.81	0.169	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
Bromodichloromethane	N	46.0 mg/kg	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
Bromoform	N	370.0 mg/kg	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
Bromomethane (Methyl bromide)	N	1000.0 mg/kg	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
Carbon Disulfide	N	NA	1.6 U	0.153 U	0.129 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
Carbon Tetrachloride	N	4.0 mg/kg	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
Chlorobenzene	N	680.0 mg/kg	1.6 U	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
Chloroethane	N	NA	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
Chloroform	N	28.0 mg/kg	1.6 U	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
Chloromethane (Methyl chloride)	N	1000.0 mg/kg	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
cis-1,2-Dichloroethene	N	1000.0 mg/kg	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
cis-1,3-Dichloropropene	N	NA	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
Cyclohexane	N	NA	-	1.53 U	1.29 U	11.9 U	-	0.13 U	-	0.4 U	-	2.6 U	-	0.13 U	-
Dibromochloromethane	N	1000.0 mg/kg	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
Dichlorodifluoromethane (Freon 12)	N	NA	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
Ethylbenzene	N	1000.0 mg/kg	4.5	0.169	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
Isopropylbenzene	N	NA	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-
Methyl acetate	N	NA	-	3.06 U	2.56 U	23.7 U	-	-	400 U	-	400 U	-	400 U	-	130 U
Methyl-t-butyl ether	N	NA	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U	-

Attachment 2
Summary of Volatile Organic Compound Results - SWMU 22
Justification for No Further Action
Former Chevron Perth Amboy Facility - Perth Amboy, New Jersey

Location ID	SB-0041	S0776	S0776	S0776	S0777	S0778	S0778							
Field Sample ID	SB-0041S-B	S0776A3	S0776C4	S0776D4	S0777A2T	S0777A4	S0777A4	S0777B2	S0777B2	S0777C3	S0777C3	S0778A4	S0778A4	
Sample Date	10/17/1995	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002
Sample Depth	2 - 4	1.0 - 1.5	5.5 - 6.0	7.5 - 8.0	0.5 - 1	1.5 - 2	1.5 - 2	2.5 - 3	2.5 - 3	5 - 5.5	5 - 5.5	1.5 - 2	1.5 - 2	
Report Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/kg	mg/kg	ug/kg	mg/kg	ug/kg	mg/kg	ug/kg	ug/kg
Sample Purpose	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Parameter Name	Leached	Soil Action Levels	Report Result											
Methylcyclohexane	N	NA	-	1.53 U	1.29 U	11.9 U	-	0.13 U	-	0.4 U	-	1.3 U	-	0.13 U
Methylene chloride (Dichloromethane)	N	210.0 mg/kg	-	0.383 U	0.321 U	2.96 U	-	0.284 U	-	0.364 U	-	0.338 U	-	0.36 U
Styrene	N	97.0 mg/kg	1.6 U	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U
Tetrachloroethene	N	6.0 mg/kg	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U
Toluene	N	1000.0 mg/kg	11	0.214	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.187
trans-1,2-Dichloroethene	N	1000.0 mg/kg	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U
trans-1,3-Dichloropropene	N	NA	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U
Trichloroethene (Trichloroethylene)	N	54.0 mg/kg	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U
Trichlorofluoromethane (Freon 11)	N	NA	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U
Vinyl chloride (Chloroethene)	N	7.0 mg/kg	-	0.153 U	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.144 U
Xylene (total)	N	1000.0 mg/kg	26	2.3	0.128 U	1.19 U	-	0.114 U	-	0.146 U	-	0.135 U	-	0.475

Notes:

J = Estimated value

mg/kg = Milligrams per kilogram

NA = No criterion available for the analyte

U = Compound not detected at the reporting level shown

UJ = Compound not detected and value shown is estimated

ug/l = Micrograms per liter

Levels highlighted in yellow are above the soil action level

Attachment 2
Summary of Volatile Organic Compound Results - SWMU 22

Justification for No Further Action

Former Chevron Perth Amboy Facility - Perth Amboy, New Jersey

Location ID	S0778	S0778	S0778	S0778	S2102	S2102	S2103	S2103	S2110	S2110	S2110	S2600	S2600
Field Sample ID	S0778B2	S0778B2	S0778C3	S0778C3	S2102B2	S2102H2	S2103B3	S2103H2	D1016063	S2110C1	S2110H2	S2600C1	S2600D4
Sample Date	07/16/2002	07/16/2002	07/16/2002	07/16/2002	10/13/2006	10/13/2006	10/13/2006	10/13/2006	10/16/2006	10/16/2006	10/16/2006	10/16/2006	02/23/2009
Sample Depth	2.5 - 3	2.5 - 3	5 - 5.5	5 - 5.5	2.5 - 3	14.5 - 15	3 - 3.5	14.5 - 15		4 - 4.5	14.5 - 15	4 - 4.5	7.5 - 8
Report Units	mg/kg	ug/kg	mg/kg	ug/kg	mg/kg								
Sample Purpose	REG	REG	REG	REG	REG	REG	REG	REG	FD	REG	REG	REG	REG
Parameter Name	Leached	Soil Action Levels	Report Result										
1,1 DICHLOROETHENE	N	150.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
1,1,1-Trichloroethane	N	1000.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
1,1,2,2-Tetrachloroethane	N	70.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
1,1,2-Trichloroethane	N	420.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
1,1,2-Trichlorotrifluoroethane (Freon 113)	N	NA	0.13 U	-	0.13 U	-	0.27 U	0.28 U	0.31 U	0.29 U	0.35 U	0.32 U	0.27 U
1,1-Dichloroethane	N	1000.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
1,2,4-Trichlorobenzene	N	1200.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
1,2-Dibromo-3-chloropropane (DBCP)	N	NA	0.13 U	-	0.13 U	-	0.27 U	0.28 U	0.31 U	0.29 U	0.35 U	0.32 U	0.27 U
1,2-Dibromoethane	N	NA	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
1,2-Dichlorobenzene (o-Dichlorobenzene)	N	10000.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
1,2-Dichloroethane	N	24.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
1,2-Dichloropropane	N	43.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
1,3-Dichlorobenzene	N	10000.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
1,4-Dichlorobenzene	N	10000.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
2-Butanone (Methyl ethyl ketone)	N	1000.0 mg/kg	3.63 U	-	3.32 U	-	0.53 U	0.57 U	0.62 U	0.59 U	0.69 U	0.64 U	0.54 U
2-Hexanone	N	NA	0.727 U	-	0.664 U	-	0.40 U	0.43 U	0.46 U	0.44 U	14	0.48 U	0.41 U
4-Methyl-2-pentanone	N	1000.0 mg/kg	0.727 U	-	0.664 U	-	0.40 U	0.43 U	0.46 U	0.44 U	0.52 U	0.48 U	0.41 U
Acetone	N	1000.0 mg/kg	3.63 U	-	3.32 U	-	0.93 U	0.99 U	1.1 U	1.0 U	1.2 U	1.1 U	0.95 U
Benzene	N	13.0 mg/kg	0.145 U	-	0.133 U	-	0.066 U	0.071 U	0.077 U	0.074 U	0.29 J	0.85	0.068 U
Bromodichloromethane	N	46.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
Bromoform	N	370.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
Bromomethane (Methyl bromide)	N	1000.0 mg/kg	0.145 U	-	0.133 U	-	0.27 U	0.28 U	0.31 U	0.29 U	0.35 U	0.32 U	0.27 U
Carbon Disulfide	N	NA	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
Carbon Tetrachloride	N	4.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
Chlorobenzene	N	680.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
Chloroethane	N	NA	0.145 U	-	0.133 U	-	0.27 U	0.28 U	0.31 U	0.29 U	0.35 U	0.32 U	0.27 U
Chloroform	N	28.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
Chloromethane (Methyl chloride)	N	1000.0 mg/kg	0.145 U	-	0.133 U	-	0.27 U	0.28 U	0.31 U	0.29 U	0.35 U	0.32 U	0.27 U
cis-1,2-Dichloroethene	N	1000.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
cis-1,3-Dichloropropene	N	NA	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
Cyclohexane	N	NA	0.13 U	-	0.13 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
Dibromochloromethane	N	1000.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
Dichlorodifluoromethane (Freon 12)	N	NA	0.145 U	-	0.133 U	-	0.27 U	0.28 U	0.31 U	0.29 U	0.35 U	0.32 U	0.27 U
Ethylbenzene	N	1000.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	1.2	3.3	0.14 U
Isopropylbenzene	N	NA	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	1.5	4.3	0.14 U
Methyl acetate	N	NA	-	130 U	-	1310 U	0.27 U	0.28 U	0.31 U	0.29 U	0.35 U	0.32 U	0.27 U
Methyl-t-butyl ether	N	NA	0.145 U	-	0.133 U	-	0.066 U	0.071 U	0.077 U	0.074 U	0.087 U	0.080 U	0.068 U

Attachment 2
Summary of Volatile Organic Compound Results - SWMU 22
Justification for No Further Action
Former Chevron Perth Amboy Facility - Perth Amboy, New Jersey

Location ID	S0778	S0778	S0778	S0778	S2102	S2102	S2103	S2103	S2110	S2110	S2110	S2600	S2600
Field Sample ID	S0778B2	S0778B2	S0778C3	S0778C3	S2102B2	S2102H2	S2103B3	S2103H2	D1016063	S2110C1	S2110H2	S2600C1	S2600D4
Sample Date	07/16/2002	07/16/2002	07/16/2002	07/16/2002	10/13/2006	10/13/2006	10/13/2006	10/13/2006	10/16/2006	10/16/2006	10/16/2006	10/16/2006	02/23/2009
Sample Depth	2.5 - 3	2.5 - 3	5 - 5.5	5 - 5.5	2.5 - 3	14.5 - 15	3 - 3.5	14.5 - 15		4 - 4.5	14.5 - 15	4 - 4.5	7.5 - 8
Report Units	mg/kg	ug/kg	mg/kg	ug/kg	mg/kg								
Sample Purpose	REG	REG	REG	REG	REG	REG	REG	REG	FD	REG	REG	REG	REG
Parameter Name	Leached	Soil Action Levels	Report Result										
Methylcyclohexane	N	NA	0.13 U	-	0.13 U	-	0.13 U	0.14 U	0.15 U	0.15 U	11	35	0.14 U
Methylene chloride (Dichloromethane)	N	210.0 mg/kg	0.363 U	-	0.332 U	-	0.27 U	0.28 U	0.31 U	0.29 U	0.35 U	0.32 U	0.27 U
Styrene	N	97.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
Tetrachloroethene	N	6.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
Toluene	N	1000.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.50 J	1.2	0.14 U
trans-1,2-Dichloroethene	N	1000.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
trans-1,3-Dichloropropene	N	NA	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
Trichloroethene (Trichloroethylene)	N	54.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
Trichlorofluoromethane (Freon 11)	N	NA	0.145 U	-	0.133 U	-	0.27 U	0.28 U	0.31 U	0.29 U	0.35 U	0.32 U	0.27 U
Vinyl chloride (Chloroethene)	N	7.0 mg/kg	0.145 U	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	0.17 U	0.16 U	0.14 U
Xylene (total)	N	1000.0 mg/kg	0.262	-	0.133 U	-	0.13 U	0.14 U	0.15 U	0.15 U	3.9	8.5	0.14 U

Notes:

J = Estimated value

mg/kg = Milligrams per kilogram

NA = No criterion available for the analyte

U = Compound not detected at the reporting level shown

UJ = Compound not detected and value shown is estimated

ug/l = Micrograms per liter

Levels highlighted in yellow are above the soil action level

Attachment 2
Summary of Tetra-ethyl Lead and Total Organic Lead Results - SWMU 22
Justification for No Further Action
Former Chevron Perth Amboy Facility - Perth Amboy, New Jersey

Location ID	SB-0041	S0776	S0776	S0776	S0777	S0777	S0777	S0778	S0778	S0778	S4759	S4759	S4759	S4760
Field Sample ID	SB-0041S-B	S0776A3	S0776C4	S0776D4	S0777A2L	S0777B2	S0777C3	S0778A4	S0778B2	S0778C3	S4759A3	S4759D3	S4759E2	S4760A3
Sample Date	10/17/1995	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	07/16/2002	05/14/2015	05/14/2015	05/14/2015	05/14/2015
Sample Depth	2 - 4	1.0 - 1.5	5.5 - 6.0	7.5 - 8.0	0.5 - 1	2.5 - 3	5 - 5.5	1.5 - 2	2.5 - 3	5 - 5.5	1 - 1.5	7 - 7.5	8.5 - 9	1 - 1.5
Report Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Sample Purpose	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG	REG
Parameter Name	Leached	Soil Action Levels	Report Result											
Tetra-ethyl lead	N	2.0 mg/kg	0.992 U	-	-	-	-	-	-	-	0.23 U	0.096 U	0.039 U	0.20 U
Total Organic Lead	N	2.0 mg/kg	-	0.66 J	0.75 J	7.1 J	0.47 J	0.46 U	0.43 U	0.47 U	0.69 J	0.6 J	-	-

Notes:

J = Estimated value

mg/kg = Milligrams per kilogram

NA = No criterion available for the analyte

U = Compound not detected at the reporting level shown

UJ = Compound not detected and value shown is estimated

ug/l = Micrograms per liter

Levels highlighted in yellow are above the soil action level

Attachment 2
Summary of Tetra-ethyl Lead and Total Organic Lead Results - SWMU 22
Justification for No Further Action
Former Chevron Perth Amboy Facility - Perth Amboy, New Jersey

Location ID	S4760	S4760	S4761	S4761	S4761D4	S4786A4	S4786D4	S4787B2	S4787D1	D0514159	S4787D4	S4788A3	S4788B4
Field Sample ID	S4760C4	S4760D4	S4761A4	S4761D1	S4761D4	S4786A4	S4786D4	S4787B2	S4787D1	D0514159	S4787D4	S4788A3	S4788B4
Sample Date	05/14/2015	05/14/2015	05/14/2015	05/14/2015	05/14/2015	05/14/2015	05/14/2015	05/14/2015	05/14/2015	05/14/2015	05/14/2015	05/14/2015	05/14/2015
Sample Depth	5.5 - 6	7.5 - 8	1.5 - 2	6 - 6.5	7.5 - 8	1.5 - 2	7.5 - 8	2.5 - 3	6 - 6.5	6 - 6.5	7.5 - 8	1 - 1.5	3.5 - 4
Report Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Sample Purpose	REG	REG	REG	REG	REG	REG	REG	REG	REG	FD	REG	REG	REG
Parameter Name	Leached	Soil Action Levels	Report Result										
Tetra-ethyl lead	N	2.0 mg/kg	0.067 U	0.040 U	0.040 U	0.75 UJ	0.039 U	0.037 U	0.13 UJ	0.043 U	0.19 UJ	0.17 UJ	0.040 U
Total Organic Lead	N	2.0 mg/kg	-	-	-	-	-	-	-	-	-	-	-

Notes:

J = Estimated value

mg/kg = Milligrams per kilogram

NA = No criterion available for the analyte

U = Compound not detected at the reporting level shown

UJ = Compound not detected and value shown is estimated

ug/l = Micrograms per liter

Levels highlighted in yellow are above the soil action level